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# Ocular Trauma - Lids to Bone

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# 3 Main Groups

- Blunt
  - Fist.
  - Sports.
- Lacerating
  - Violence.
  - DIY.
- Chemical
  - Employment.
  - DIY.

# Blunt Trauma

- Mild to Moderate.
  - “Bruised” ocular tissues.
  - Eye wall intact.
- Moderate to Severe.
  - Ruptured eye wall.
  - Severe consequences.

# Location of Injury

- Adnexa.
- Anterior Segment.
- Posterior Segment.
- Orbital Structures.

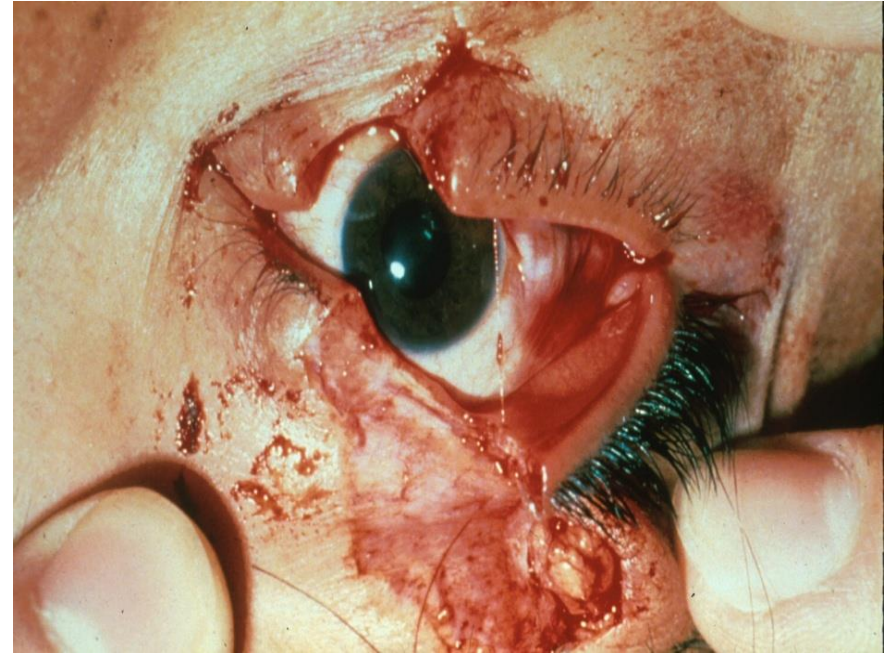
# Photographs

- Front to back...

- Eyelids.
- Lacrimal Structures.

# Lid Laceration

- Can be repaired late. (12-24 hours).
- Preserve as much tissue as possible.
- AB's & Tenatus cover.
- Check for tissue FB's.
- Keep Cornea moist.





# Lacrimal Laceration:

- Globe intact.
- Re-constructive surgery.
  - Stent.
  - Remain in situ for 4-6 weeks post op.
- AB & Tetanus cover.
- Pts. still suffer tearing.



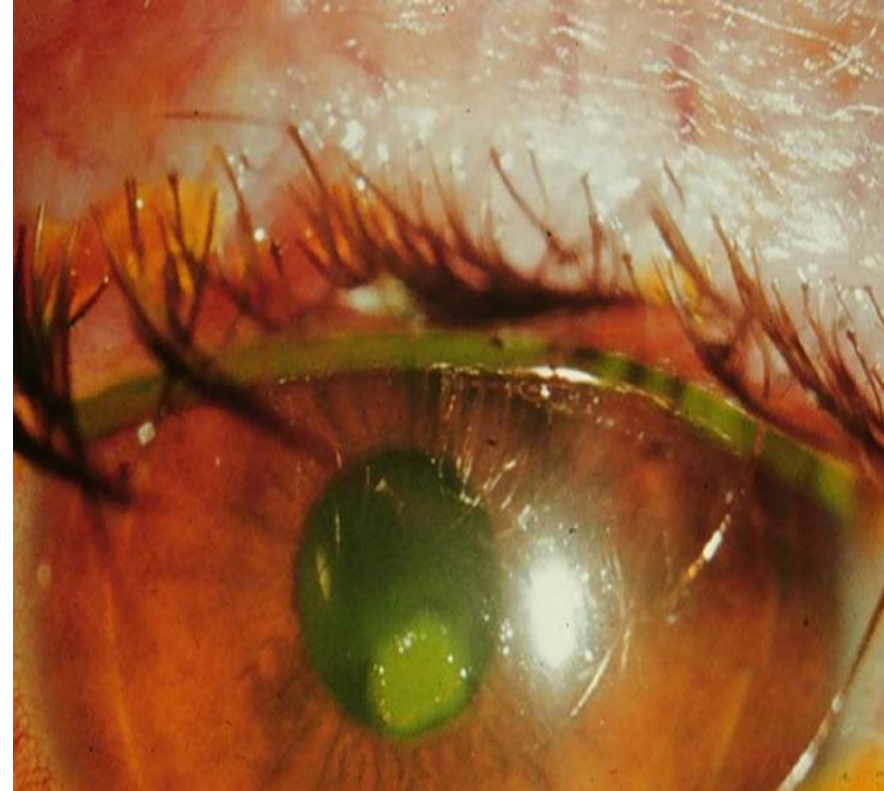
# Conjunctival Laceration:

- Seidel's Test.
- Beware Scleral Laceration.
- Topical AB's
- Large lacerations may need suturing.
- Padding may help.



# Corneal Abrasion

- Common
- Heal quickly
- Antibiotic cover
- Painful +++
- Watery +++



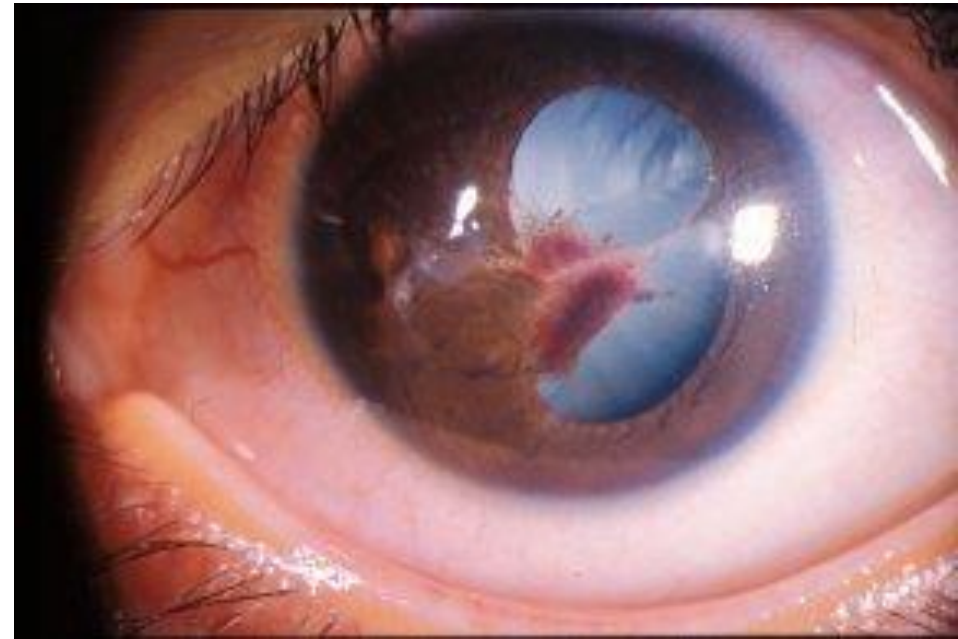
# Superficial Corneal FB.

- What?
- When?
- How?
- Why?
- AB's & Tetanus?
- Organic material?
- Protection?
- First Aid?



# Perforated Globe - The Suspects!

- Decreased VA.
- Hypotony.
- Shallow AC.
- Alteration in pupil size or location.
- Corneal, lens or vitreal tracking.
- Chemosis +/-.
- Sub- Conj Haem +/-.



**EXTREME CARE!!!!**



# Intraocular

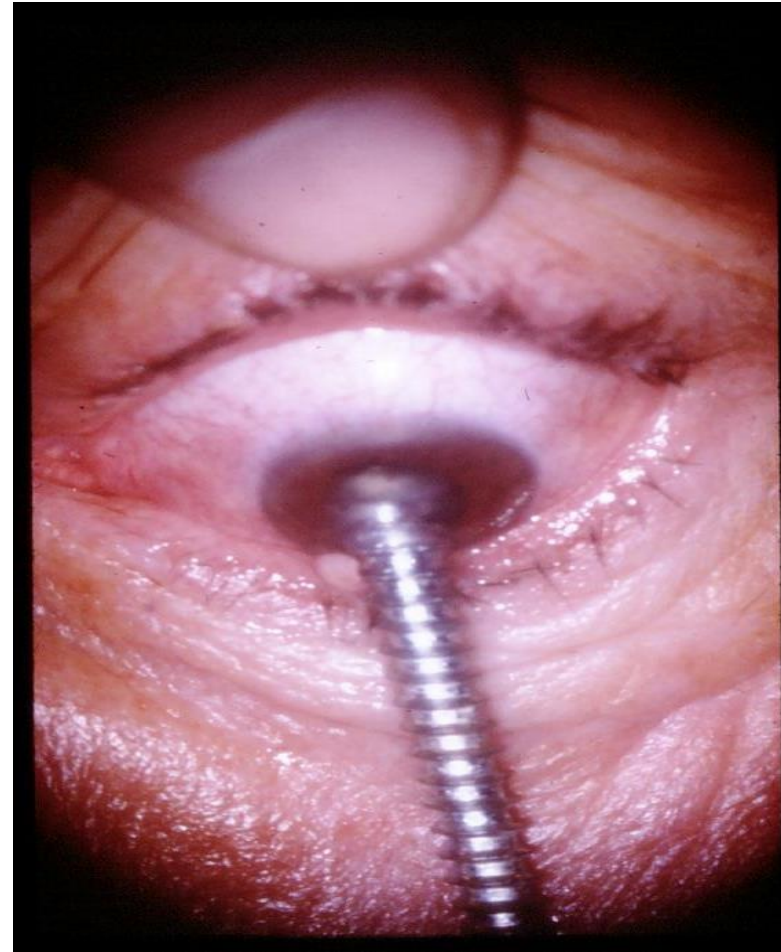
- Compromised Eye
- Remove FB
- Repair Cornea
- AB's
- Steroids
- ?Cataract Formation



This photograph shows a foreign body in the iris tissue. The patient was hammering a nail (without wearing eye protection) and was struck in the eye by a chip from the nail. Note how the nail chip tore the iris.

# Penetrating:

- Ouch!
- Always use the right tool for the right job
- Always wear eye protection!



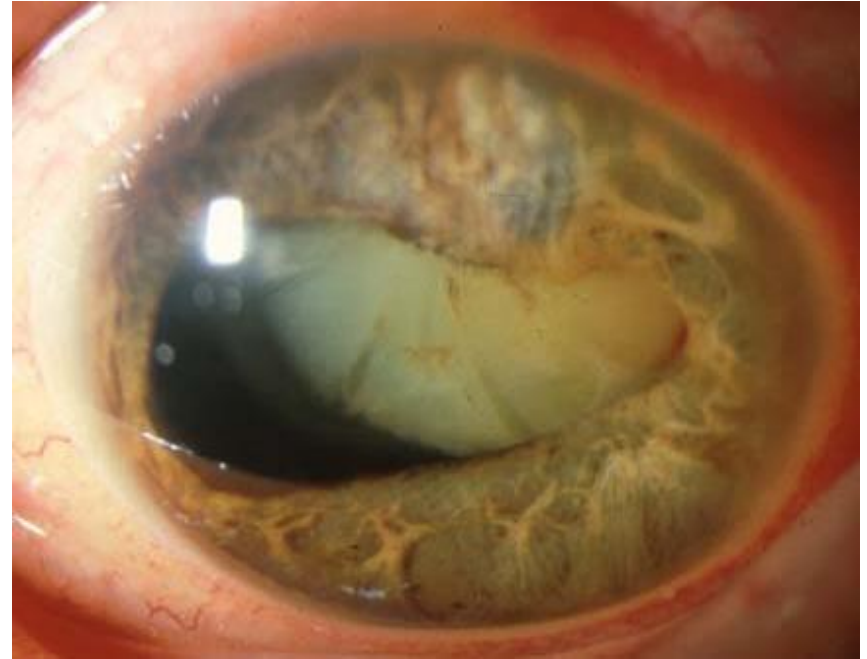
# Penetrating:





# Traumatic Cataract:

- Occurs even after minor injury to lens.
- Rapid formation (weeks).
- Typically has 'spokes'.
- 'Normal' management.



# Ocular Trauma - Acquired

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# Orbital Structures

- Extraocular muscles.
  - Restriction.
- Bony walls.
  - Fracture.

# Extra Ocular Muscle Blunt Trauma

- CNIII Palsy
- CNIV Palsy
- CNVI Palsy

# Soft Tissue Trauma

- Ecchymosis.
- Muscle Restriction due to soft tissue oedema.



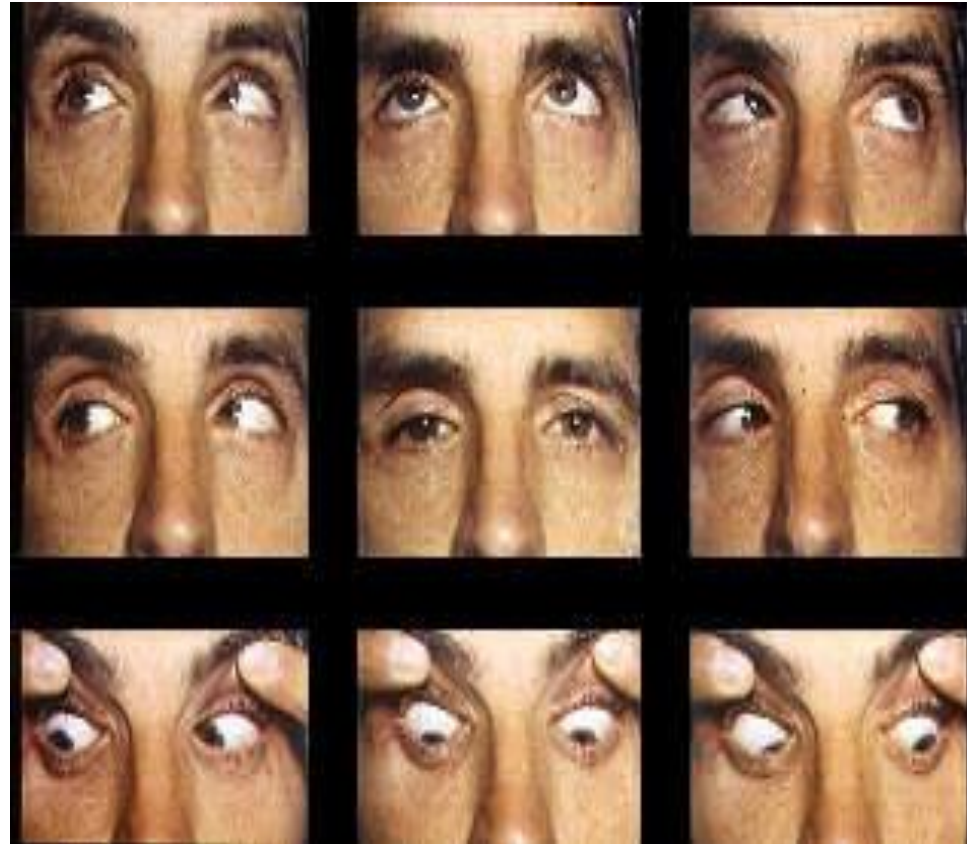
# III Nerve Palsy

- Acquired
  - Aneurysm
  - Head Trauma
  - Neoplasm
  - Rapid onset, resolves (if at all) within 6/12.
  - May involve pupil
- Diabetes
  - Never involves pupil
  - Near 100% recovery



# IV Nerve Palsy

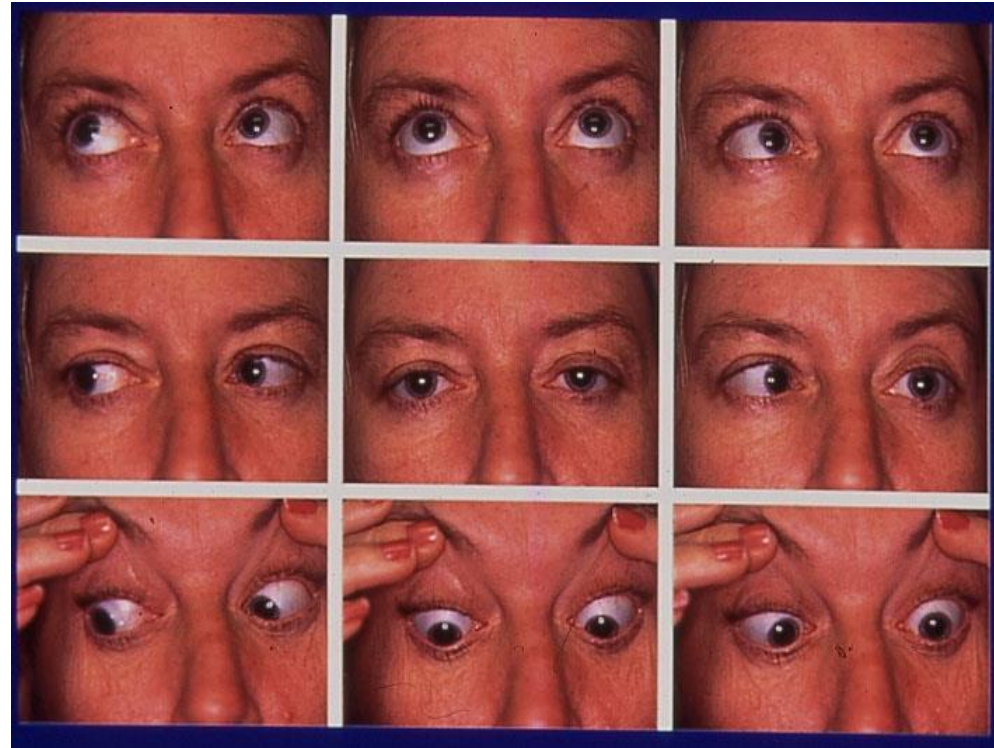
- Acquired
  - Common after closed head trauma.
  - Exclude diabetes, tumor.
  - Treatment is limited.
  - Wait and see for 6/12.





# VI Nerve Palsy

- Acquired
  - Multiple Etiology.
  - Diabetes.
  - Hypertension.
  - Neoplasm.
  - Aneurysm.
  - Heavy Metal Poisoning.
  - Viral Disease.
  - Middle Ear Infection.





# Blow Out Fractures

- Superior
- Inferior
- Lateral
- Medial

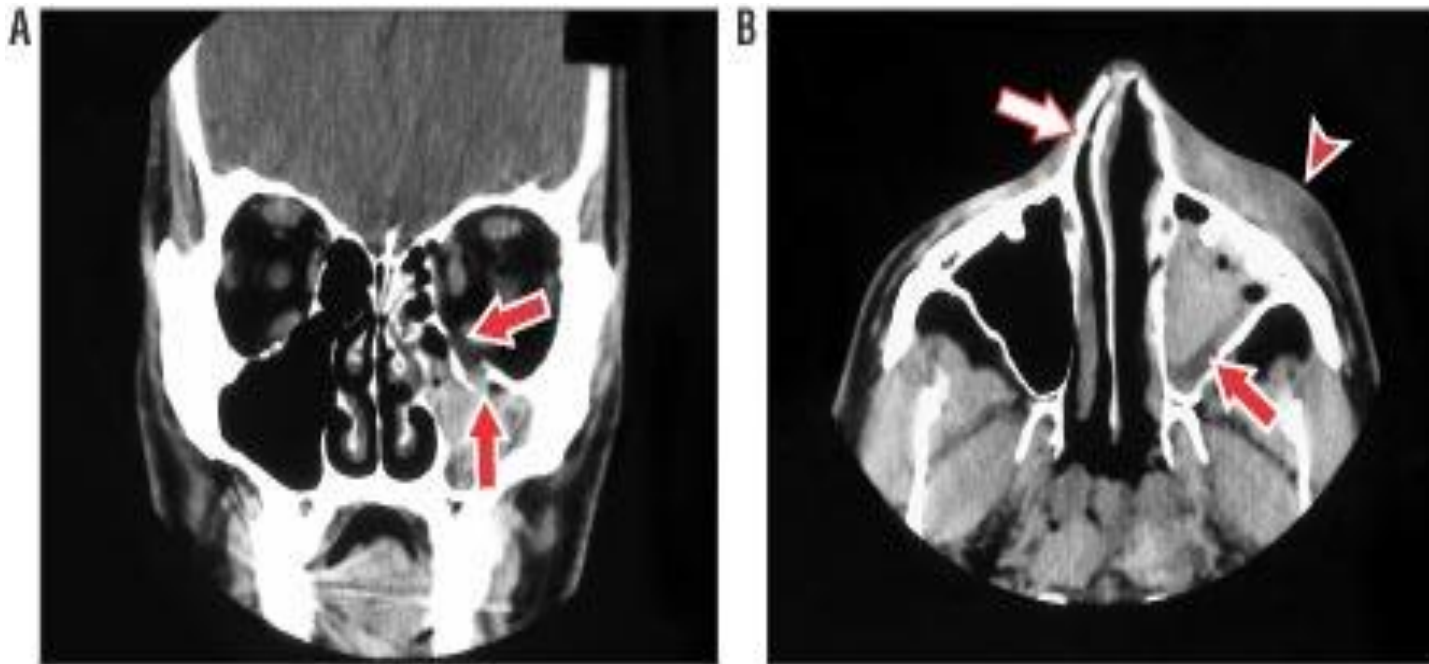


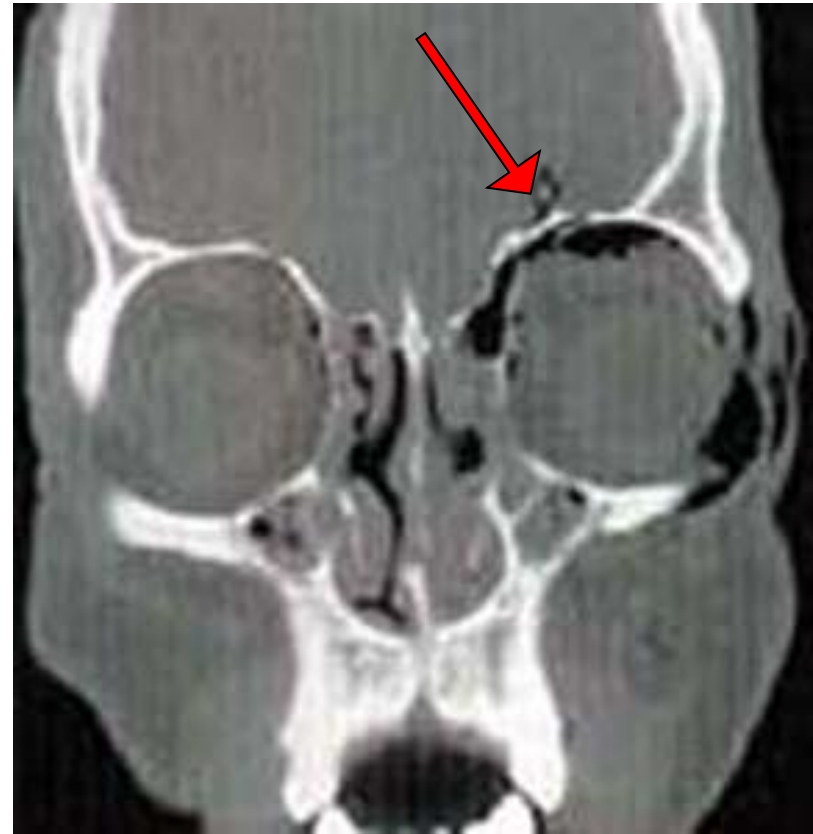
FIGURE 2. Frontal CT (A) of the patient reveals multiple fractures of the left orbit (arrows). Superior CT (B) of the same patient shows swelling of the soft tissues (arrowhead), opacification of the left maxillary and ethmoid sinuses (red arrow), and a deviated nasal septum (white arrow).

# Superior #

- Check for Crepitus

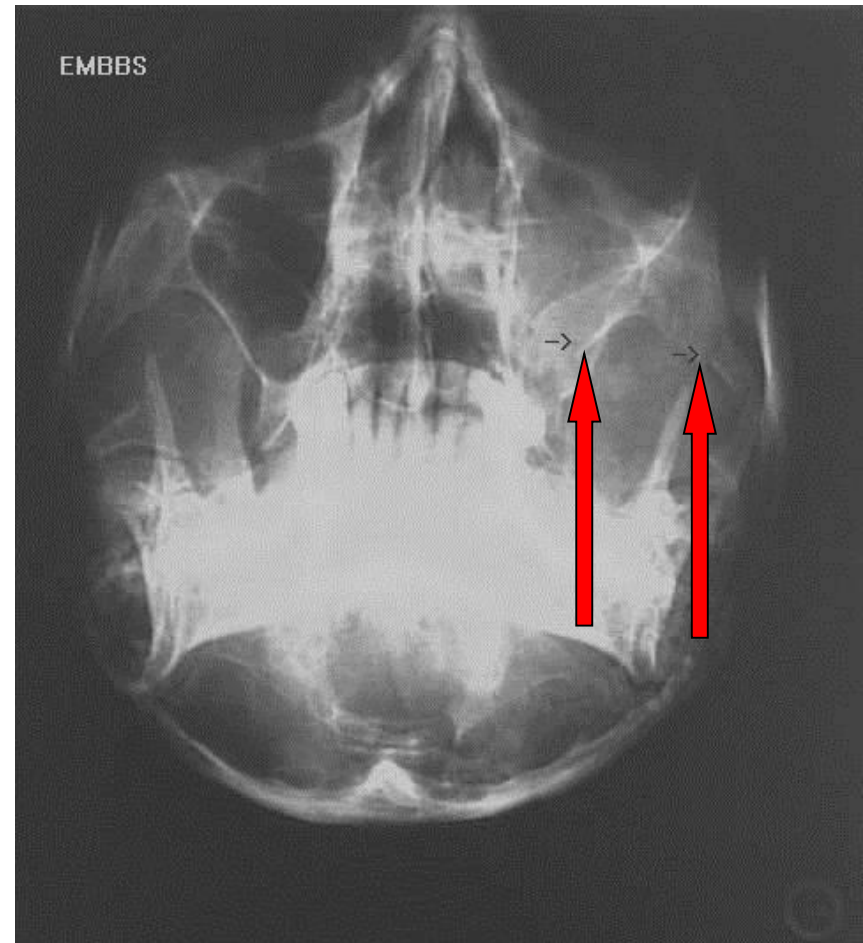
and

- Sub-Cutaneous Emphysema.



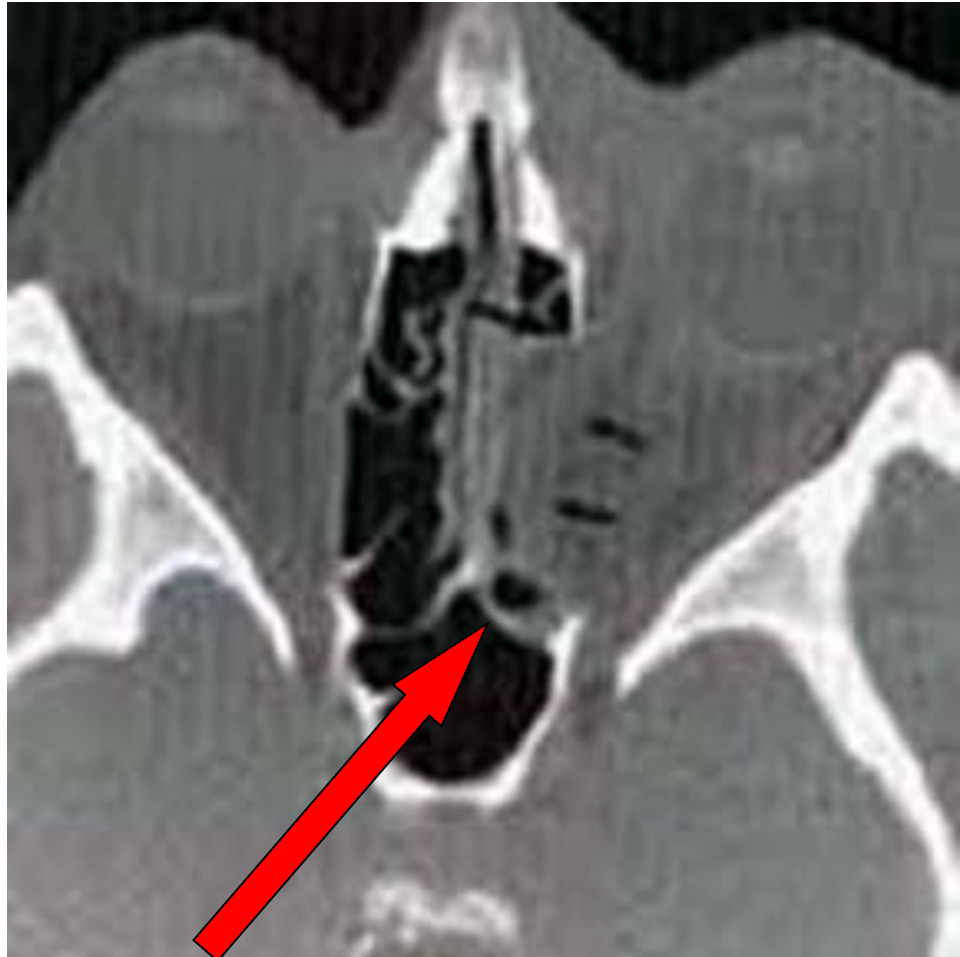
# Lateral #

- Typical 'Waters View' X-Ray.



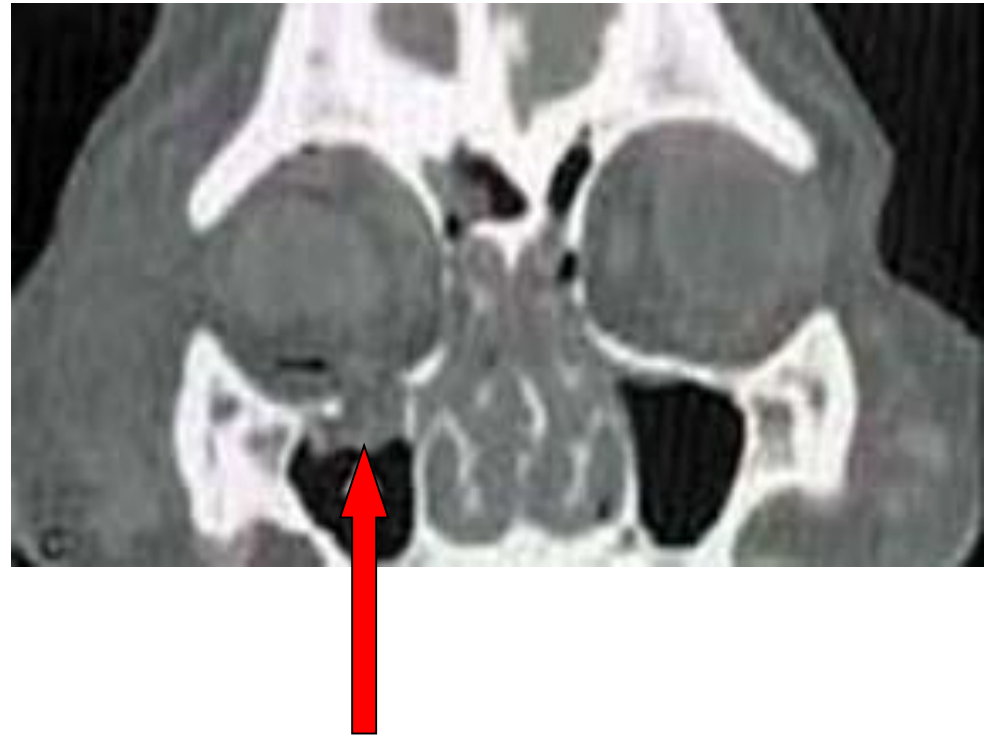
# Medial #

- Common after nose or medial orbital rim trauma.



# Inferior #

- Pain on elevation.
- Often trap the Inferior Rectus.
- Can trap Inferior Oblique.





# Variations:

Orbit Apex # (CT)



Trap Door # (CT)



# Finally

- Thank you.